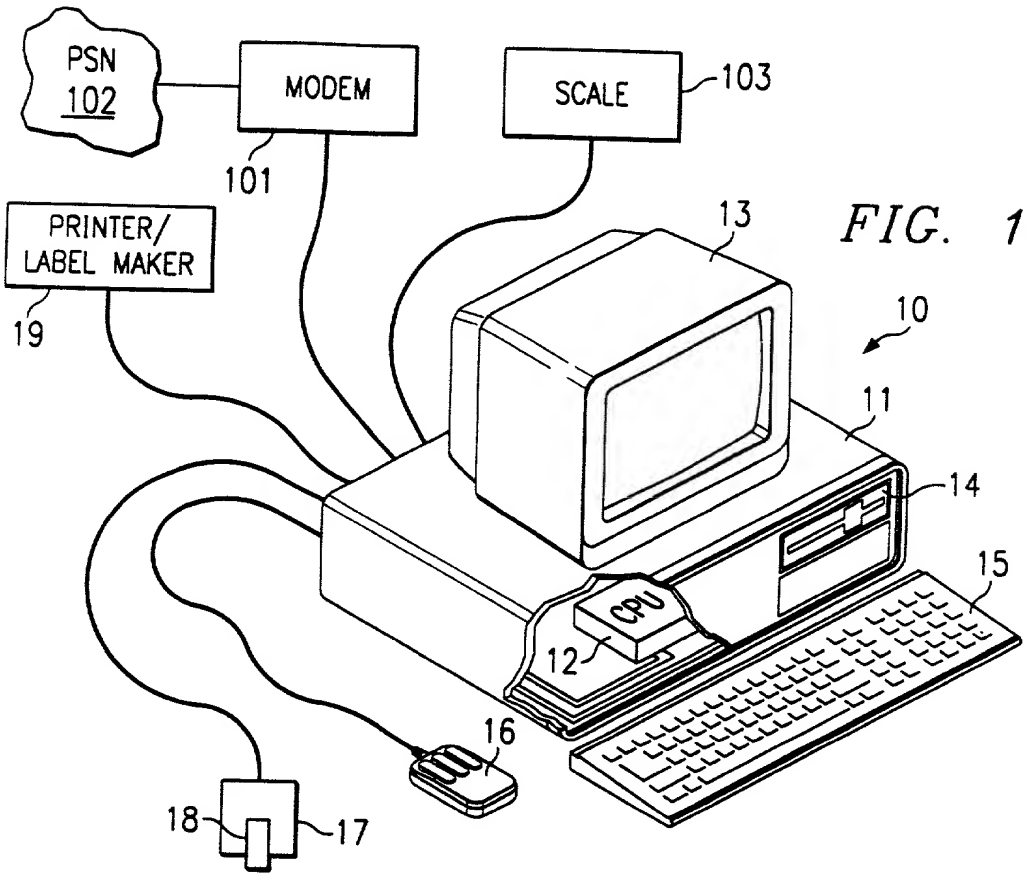
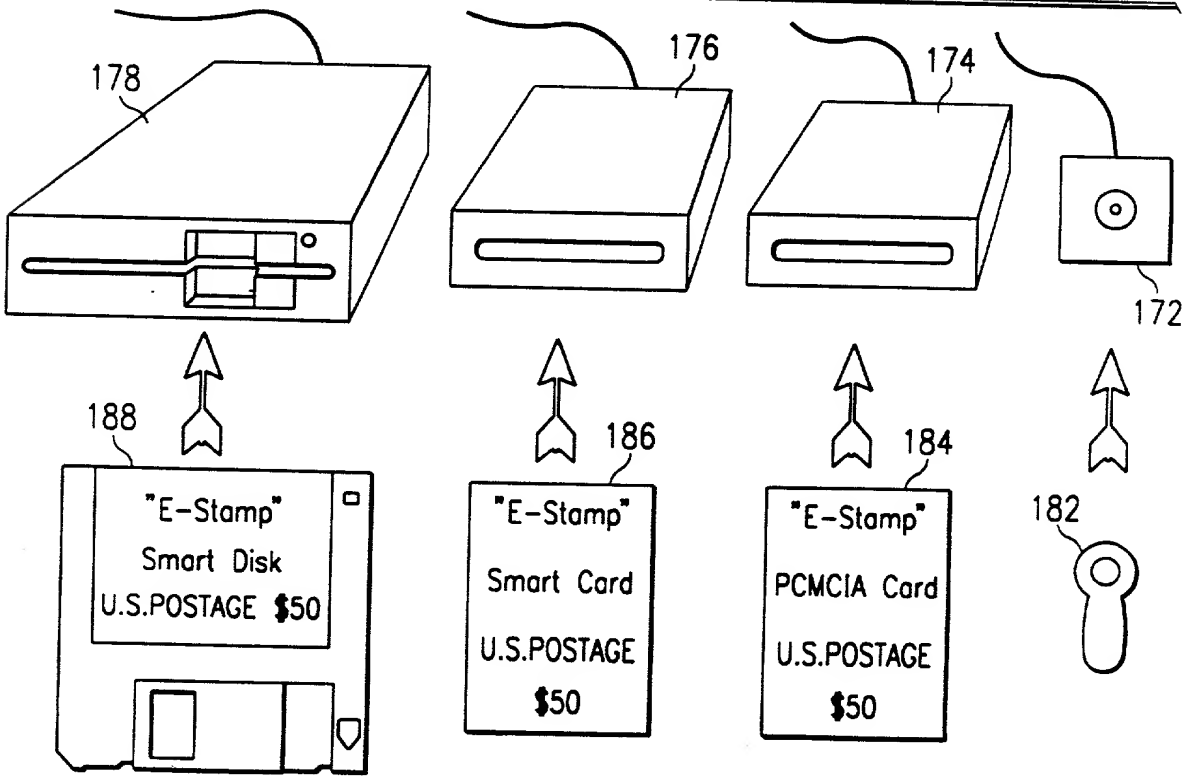

PSN
102
MODEM
101
SCALE
103
PRINTER/
LABEL MAKER
19
13
10
11
14
15
CPU
12
16
18
17

FIG. 1A

FIG. 1B


178
176
174
172
188
186
184
182
"E-Stamp"
Smart Disk
U.S.POSTAGE $50
"E-Stamp"
Smart Card
U.S.POSTAGE
$50
"E-Stamp"
PCMCIA Card
U.S.POSTAGE
$50

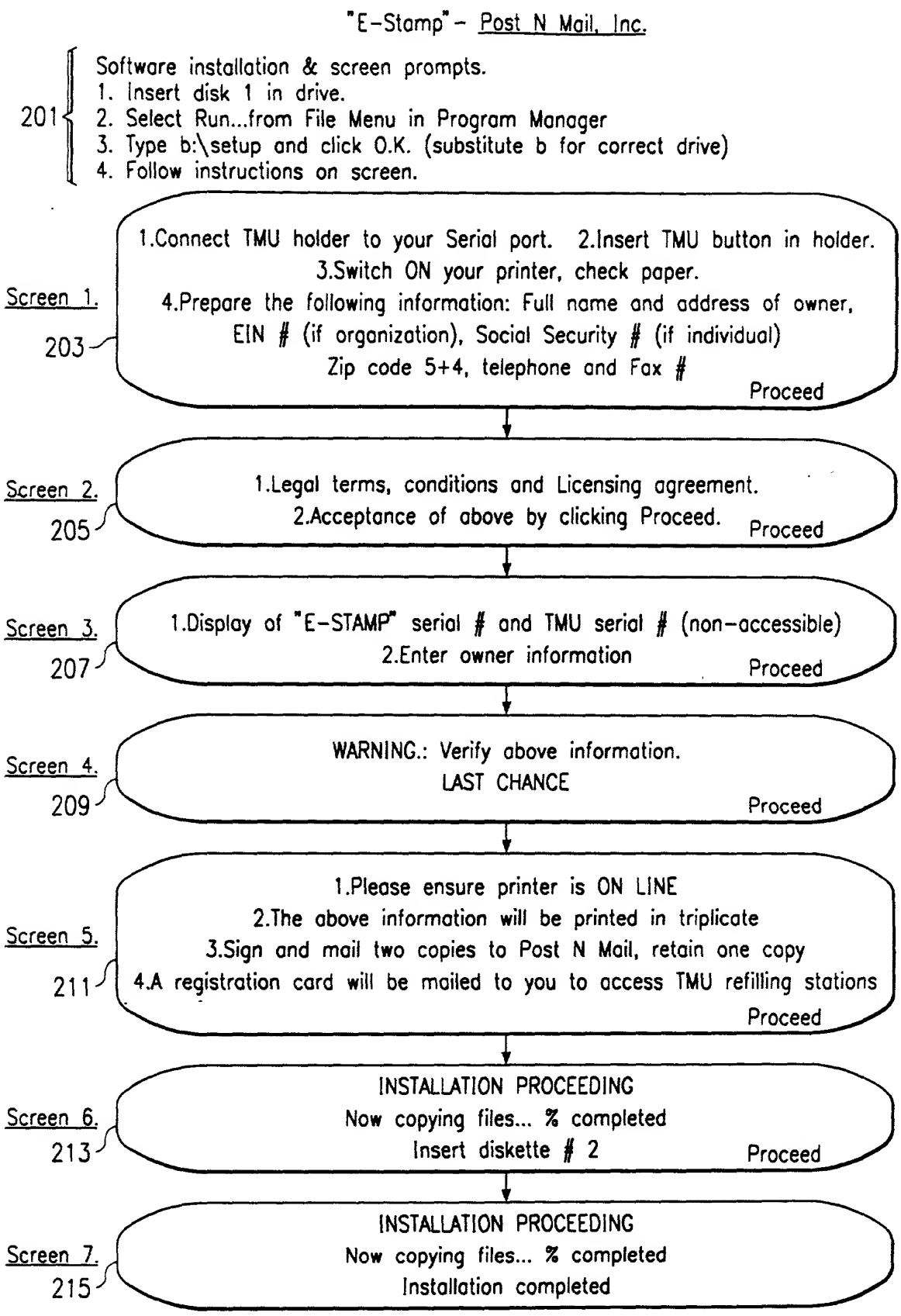

"E-Stamp"- Post N Mail, Inc.
201
Software installation & screen prompts.
1. Insert disk 1 in drive.
2. Select Run...from File Menu in Program Manager
3. Type b:\setup and click O.K. (substitute b for correct drive)
4. Follow instructions on screen.
Screen 1.
203
1.Connect TMU holder to your Serial port. 2.Insert TMU button in holder.
3.Switch ON your printer, check paper.
4.Prepare the following information: Full name and address of owner,
EIN # (if organization), Social Security # (if individual)
Zip code 5+4, telephone and Fax #
Proceed
Screen 2.
205
1.Legal terms, conditions and Licensing agreement.
2.Acceptance of above by clicking Proceed.
Proceed
Screen 3.
207
1.Display of "E-STAMP" serial # and TMU serial # (non-accessible)
2.Enter owner information
Proceed
Screen 4.
209
WARNING.: Verify above information.
LAST CHANCE
Proceed
Screen 5.
211
1.Please ensure printer is ON LINE
2.The above information will be printed in triplicate
3.Sign and mail two copies to Post N Mail, retain one copy
4.A registration card will be mailed to you to access TMU refilling stations
Proceed
Screen 6.
213
INSTALLATION PROCEEDING
Now copying files... % completed
Insert diskette # 2
Proceed
Screen 7.
215
INSTALLATION PROCEEDING
Now copying files... % completed
Installation completed

FIG. 2

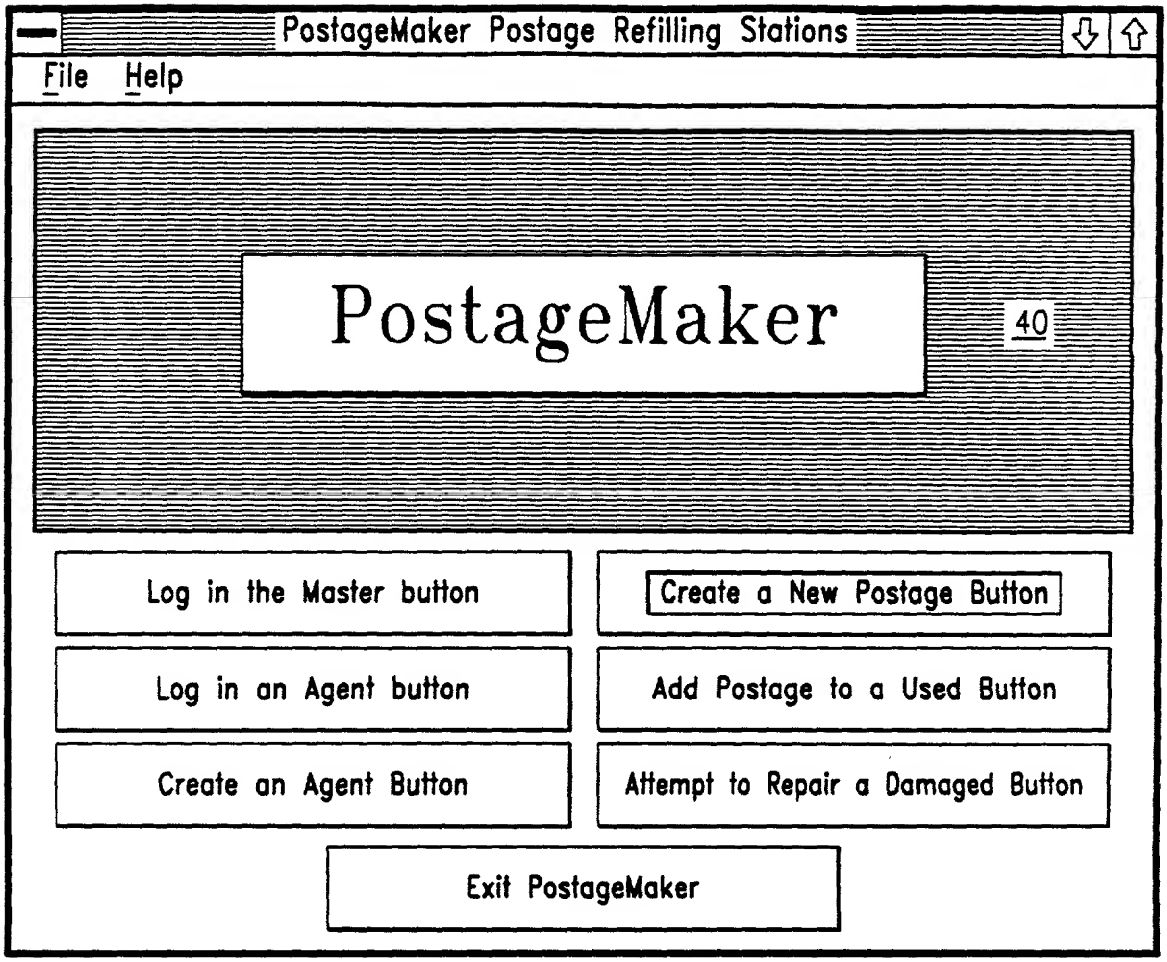

PostageMaker Postage Refilling Stations
File Help
PostageMaker
40
Log in the Master button
Create a New Postage Button
Log in an Agent button
Add Postage to a Used Button
Create an Agent Button
Attempt to Repair a Damaged Button
Exit PostageMaker

FIG. 4A

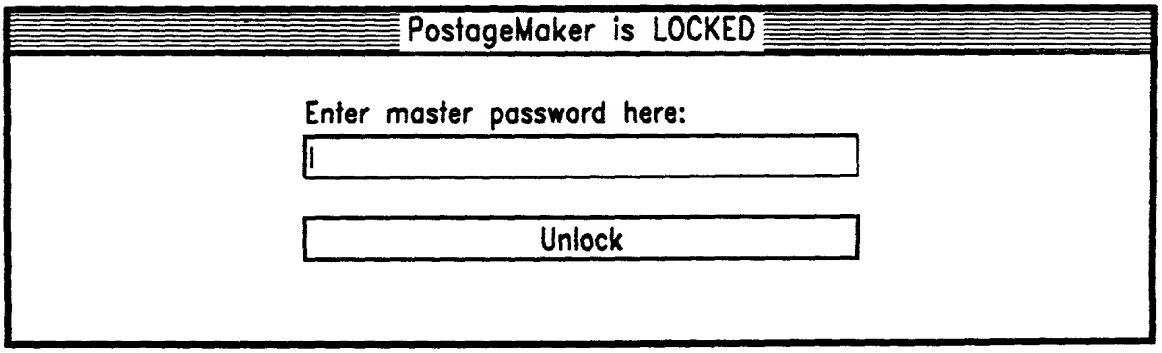

PostageMaker is LOCKED
Enter master password here:
Unlock

FIG. 4B

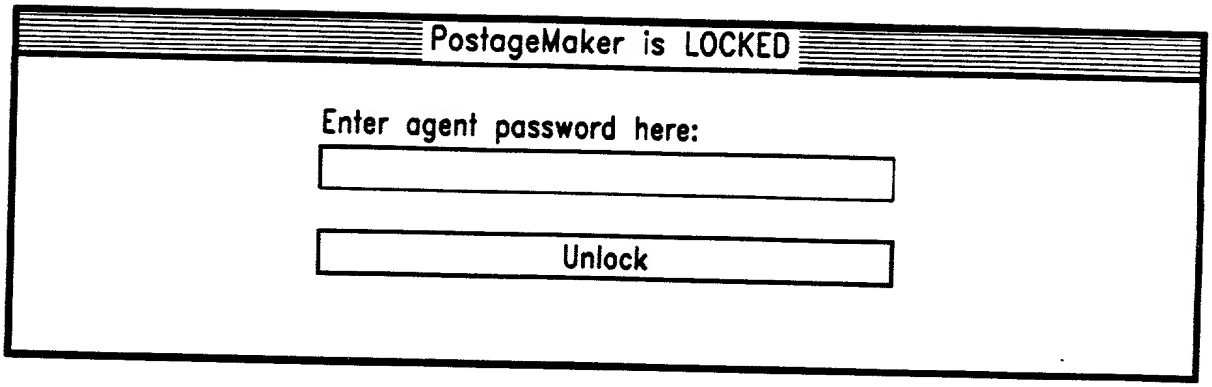

PostageMaker is LOCKED
Enter agent password here:
Unlock

FIG. 4C

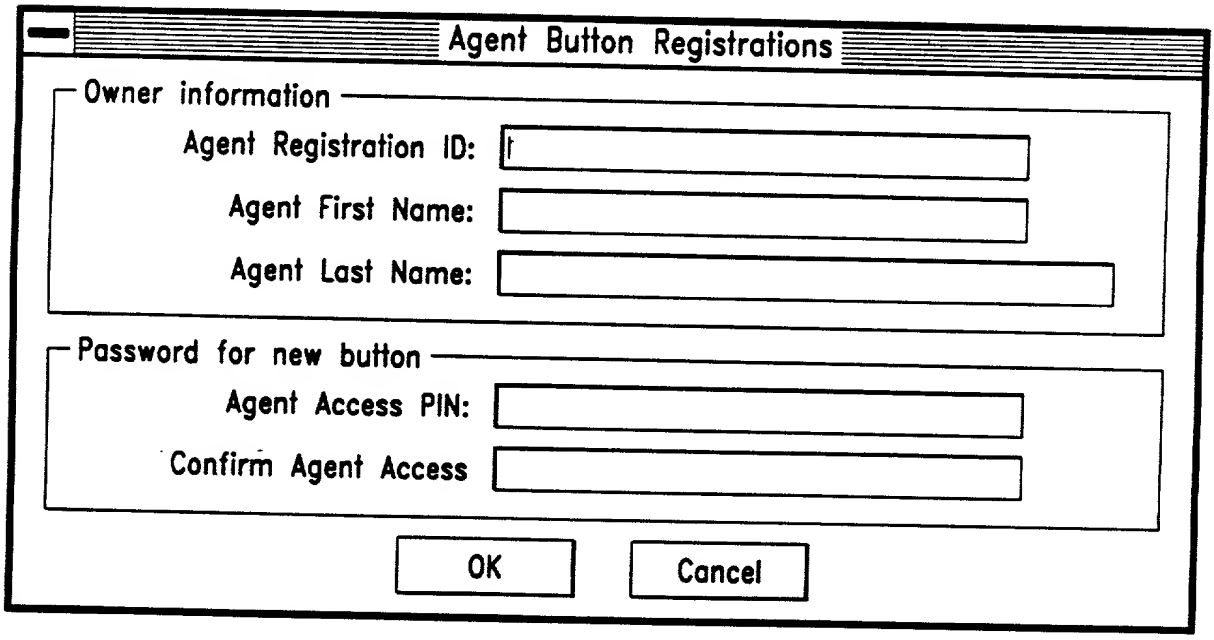

Agent Button Registrations
Owner information
Agent Registration ID:
Agent First Name:
Agent Last Name:
Password for new button
Agent Access PIN:
Confirm Agent Access
OK
Cancel

FIG. 4D

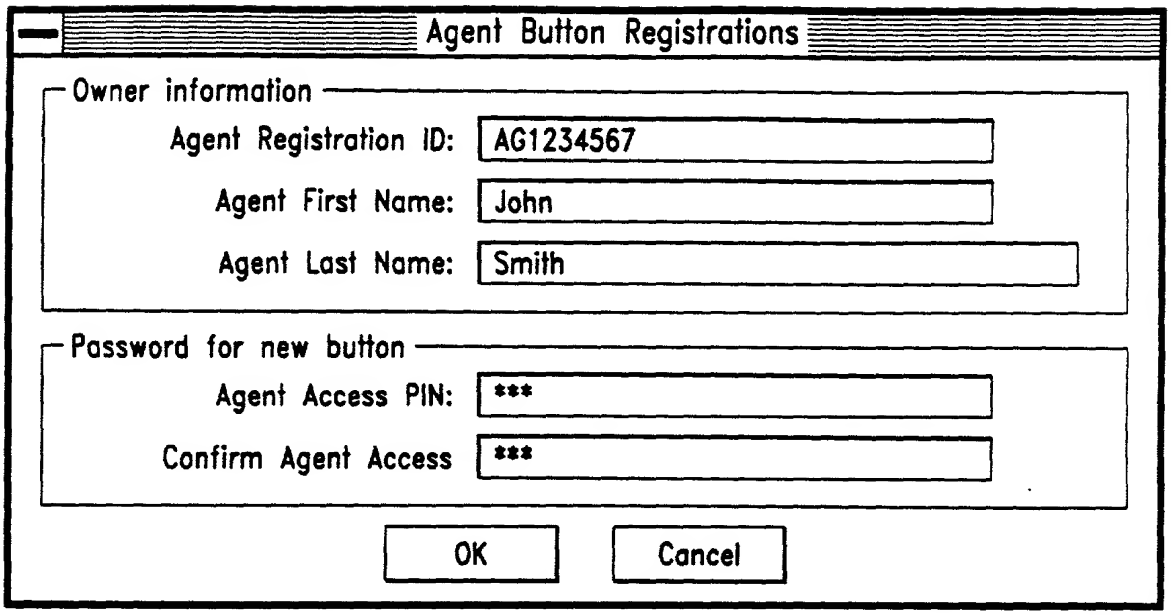


FIG. 4E

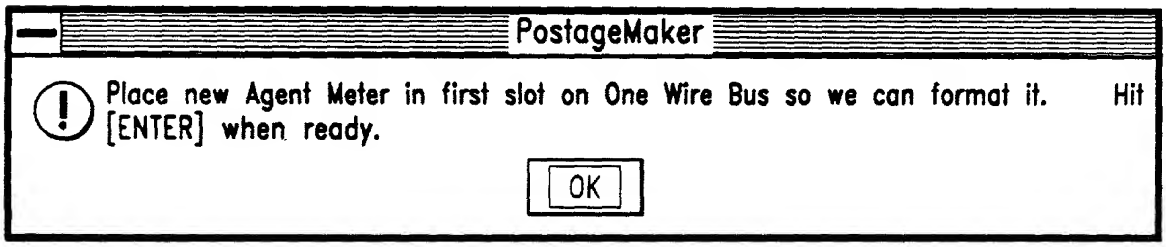


FIG. 4F

FIG. 4G

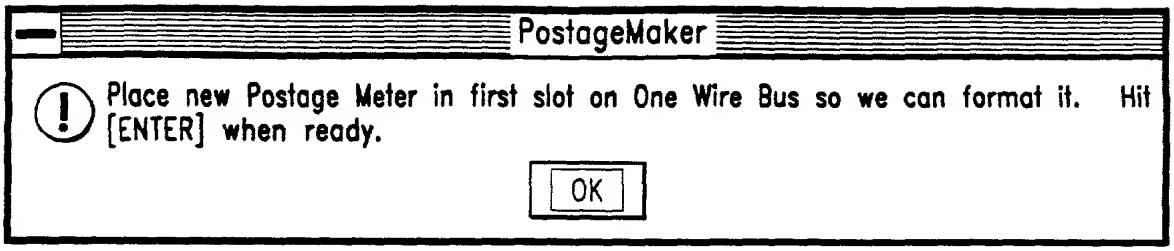


FIG. 4H

RECEIPT RECEIPT NO: AG7654321

POSTAGE BUTTON REFILL SERVICES 5/25

TRANSACTION:

AUTHORIZATION CODE: MA1234567

TRANSACTION DATE: 5/25/95
TRANSACTION TYPE: INITIALIZE
TRANSACTION AMOUNT: 2.00

POSTAGE BUTTON:

SERIAL NO: 0800101000E0

OWNER:
OWNER ZIP CODE:
TRANSACTION COUNTER: 00
REMAINING CREDIT BALANCE: 2.00

FIG. 4I

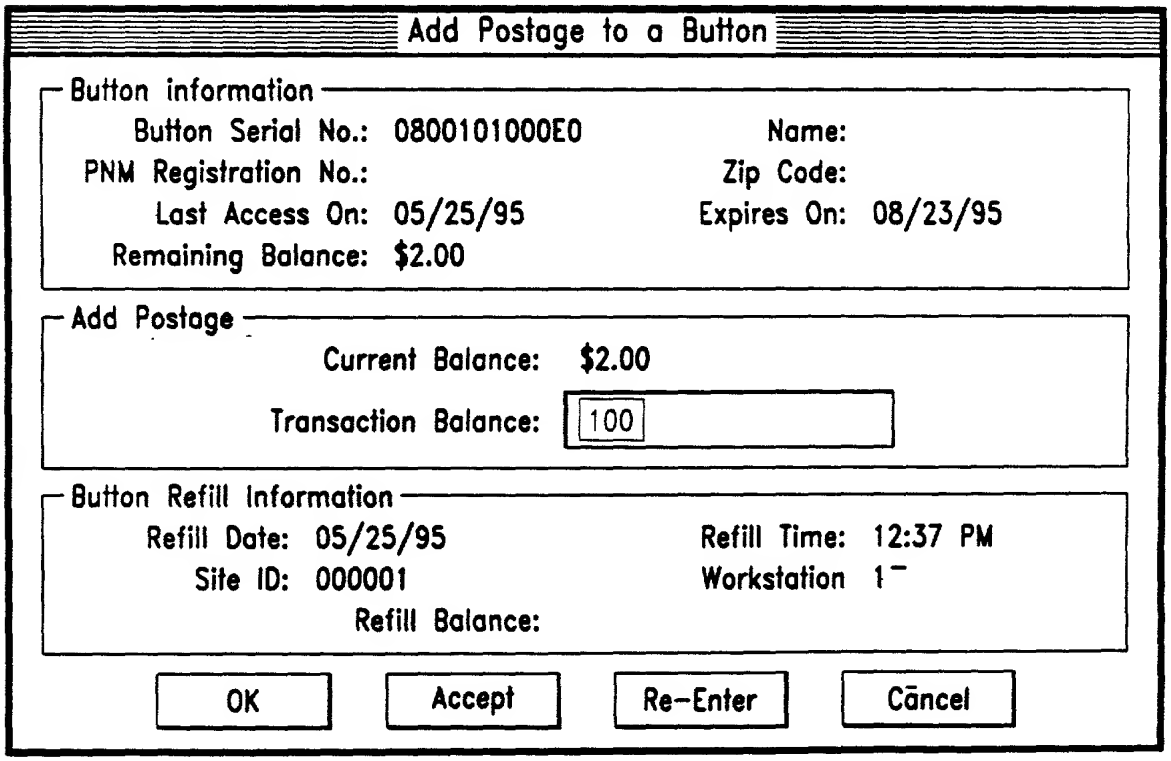


FIG. 4J

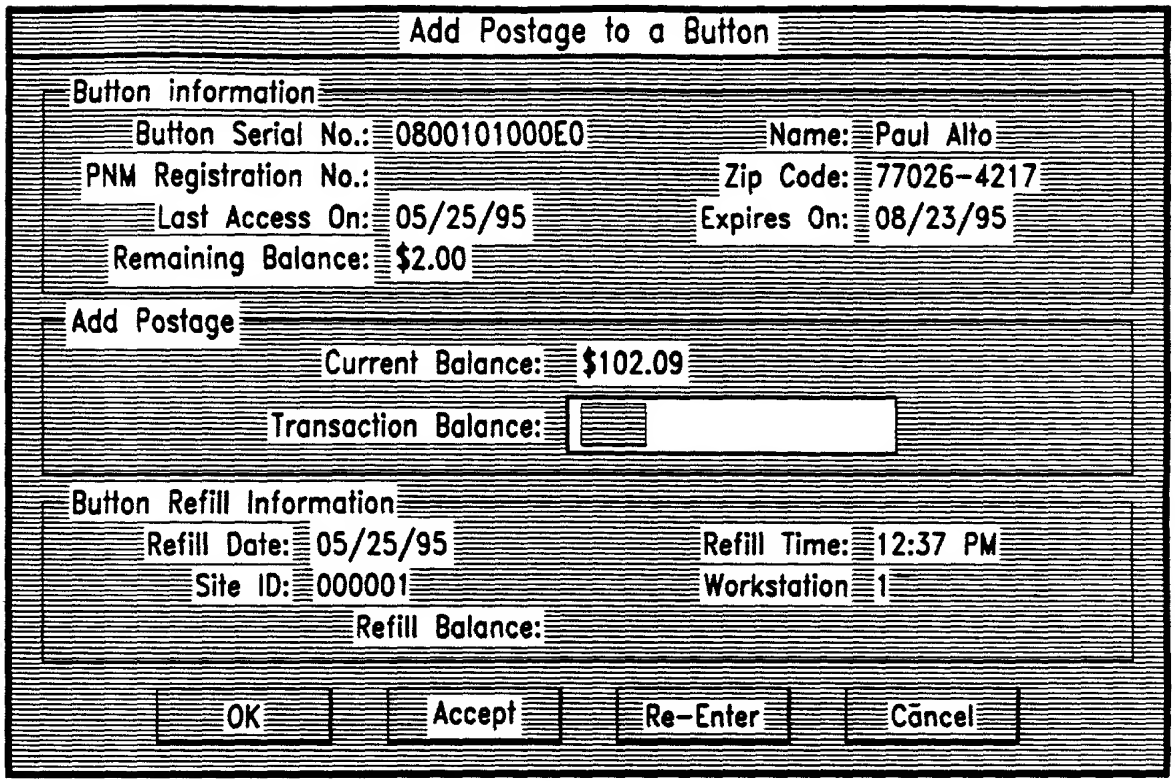

Add Postage to a Button
Button information
Button Serial No.: 0800101000E0
Name: Paul Alto
PNM Registration No.:
Zip Code: 77026-4217
Last Access On: 05/25/95
Expires On: 08/23/95
Remaining Balance: $2.00
Add Postage
Current Balance: $102.09
Transaction Balance:
Button Refill Information
Refill Date: 05/25/95
Refill Time: 12:37 PM
Site ID: 000001
Workstation 1
Refill Balance:
OK
Accept
Re-Enter
Cancel

FIG. 4K

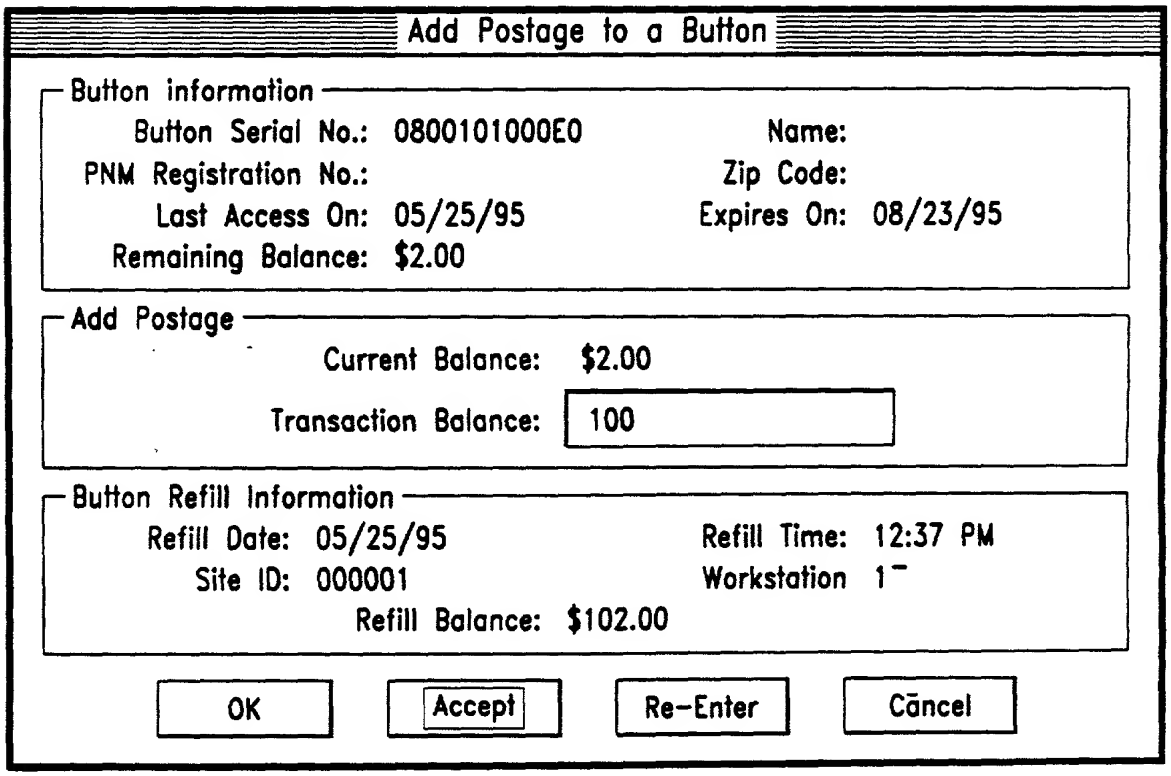

Add Postage to a Button
Button information
Button Serial No.: 0800101000E0
Name:
PNM Registration No.:
Zip Code:
Last Access On: 05/25/95
Expires On: 08/23/95
Remaining Balance: $2.00
Add Postage
Current Balance: $2.00
Transaction Balance: 100
Button Refill Information
Refill Date: 05/25/95
Refill Time: 12:37 PM
Site ID: 000001
Workstation 1
Refill Balance: $102.00
OK
Accept
Re-Enter
Cancel

FIG. 4L

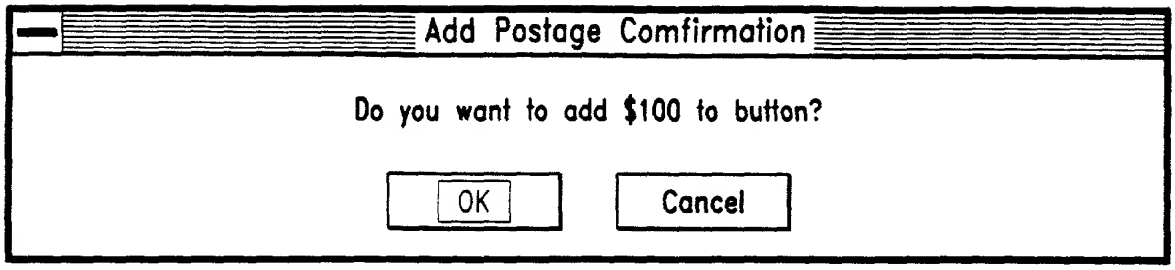


FIG. 4M

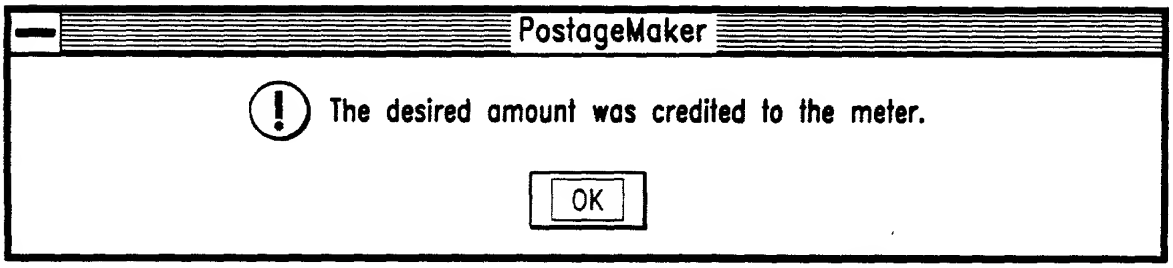


FIG. 4N

RECEIPT RECEIPT NO: AG7654321

POSTAGE BUTTON REFILL SERVICES 5/25

TRANSACTION:

AUTHORIZATION CODE: MA1234567

TRANSACTION DATE: 5/25/95
TRANSACTION TYPE: CREDIT
TRANSACTION AMOUNT: 100.00

POSTAGE BUTTON:

SERIAL NO: 0800101000E0

OWNER:
OWNER ZIP CODE:
TRANSACTION COUNTER: 01
REMAINING CREDIT BALANCE: 102.00

FIG. 4O

Pitney Bowes Exhibit 1008

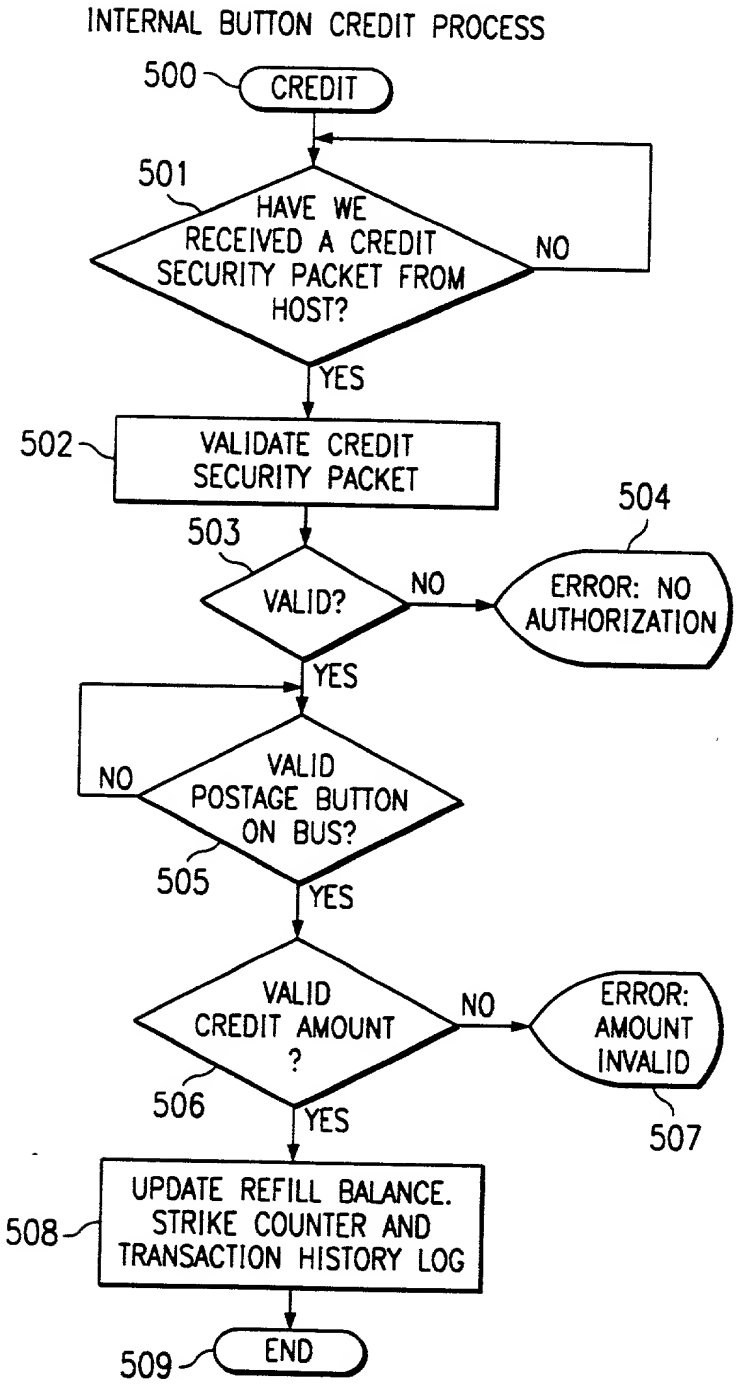

INTERNAL BUTTON CREDIT PROCESS
500
CREDIT
501
HAVE WE RECEIVED A CREDIT SECURITY PACKET FROM HOST?
NO
YES
502
VALIDATE CREDIT SECURITY PACKET
503
VALID?
NO
504
ERROR: NO AUTHORIZATION
YES
NO
VALID POSTAGE BUTTON ON BUS?
505
YES
VALID CREDIT AMOUNT ?
NO
ERROR: AMOUNT INVALID
506
507
YES
508
UPDATE REFILL BALANCE. STRIKE COUNTER AND TRANSACTION HISTORY LOG
509
END

FIG. 5A

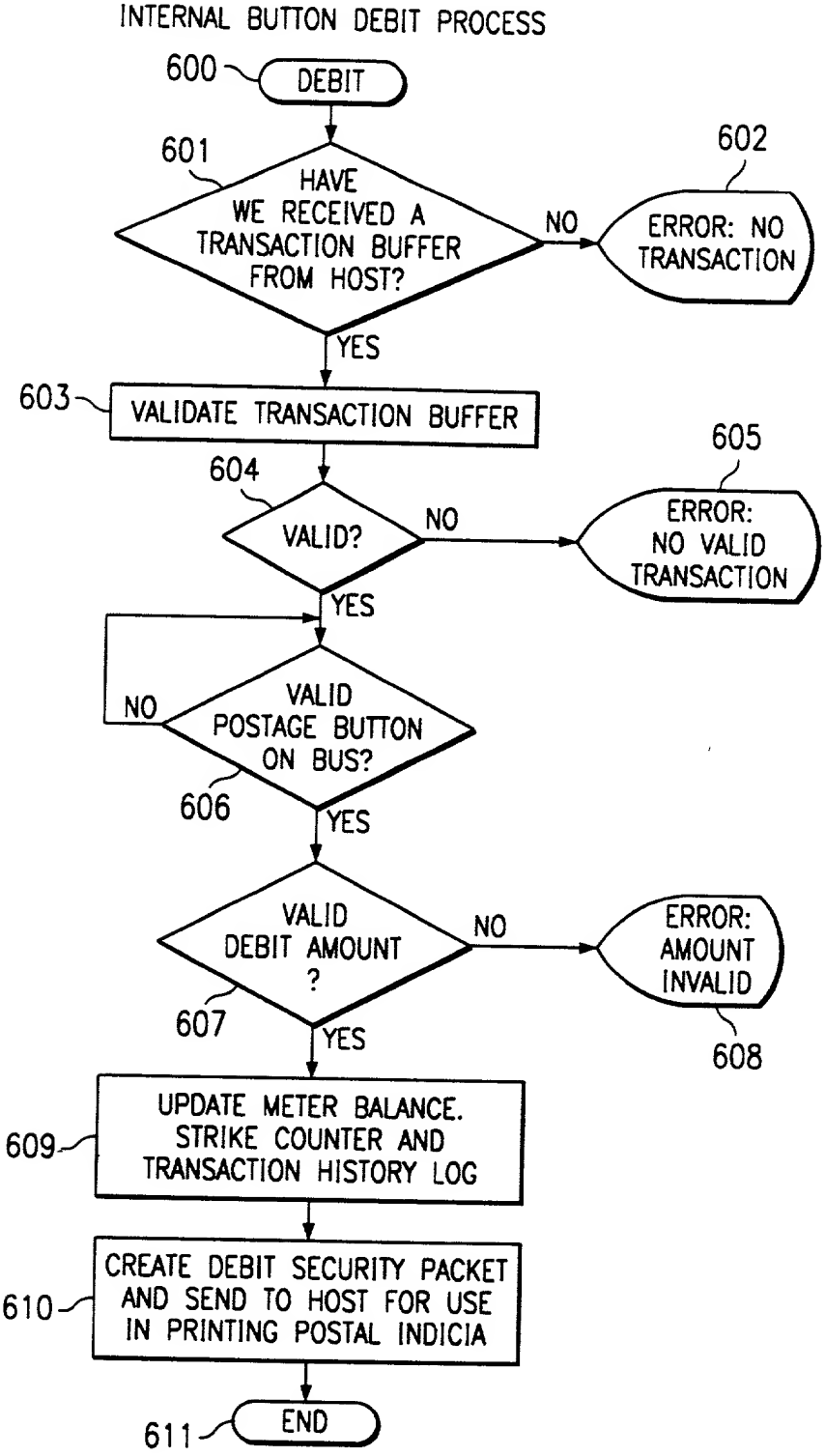

INTERNAL BUTTON DEBIT PROCESS
600
DEBIT
601
HAVE WE RECEIVED A TRANSACTION BUFFER FROM HOST?
NO
602
ERROR: NO TRANSACTION
YES
603
VALIDATE TRANSACTION BUFFER
604
VALID?
NO
605
ERROR: NO VALID TRANSACTION
YES
NO
VALID POSTAGE BUTTON ON BUS?
606
YES
VALID DEBIT AMOUNT ?
NO
ERROR: AMOUNT INVALID
607
608
YES
609
UPDATE METER BALANCE. STRIKE COUNTER AND TRANSACTION HISTORY LOG
610
CREATE DEBIT SECURITY PACKET AND SEND TO HOST FOR USE IN PRINTING POSTAL INDICIA
611
END

FIG. 5B

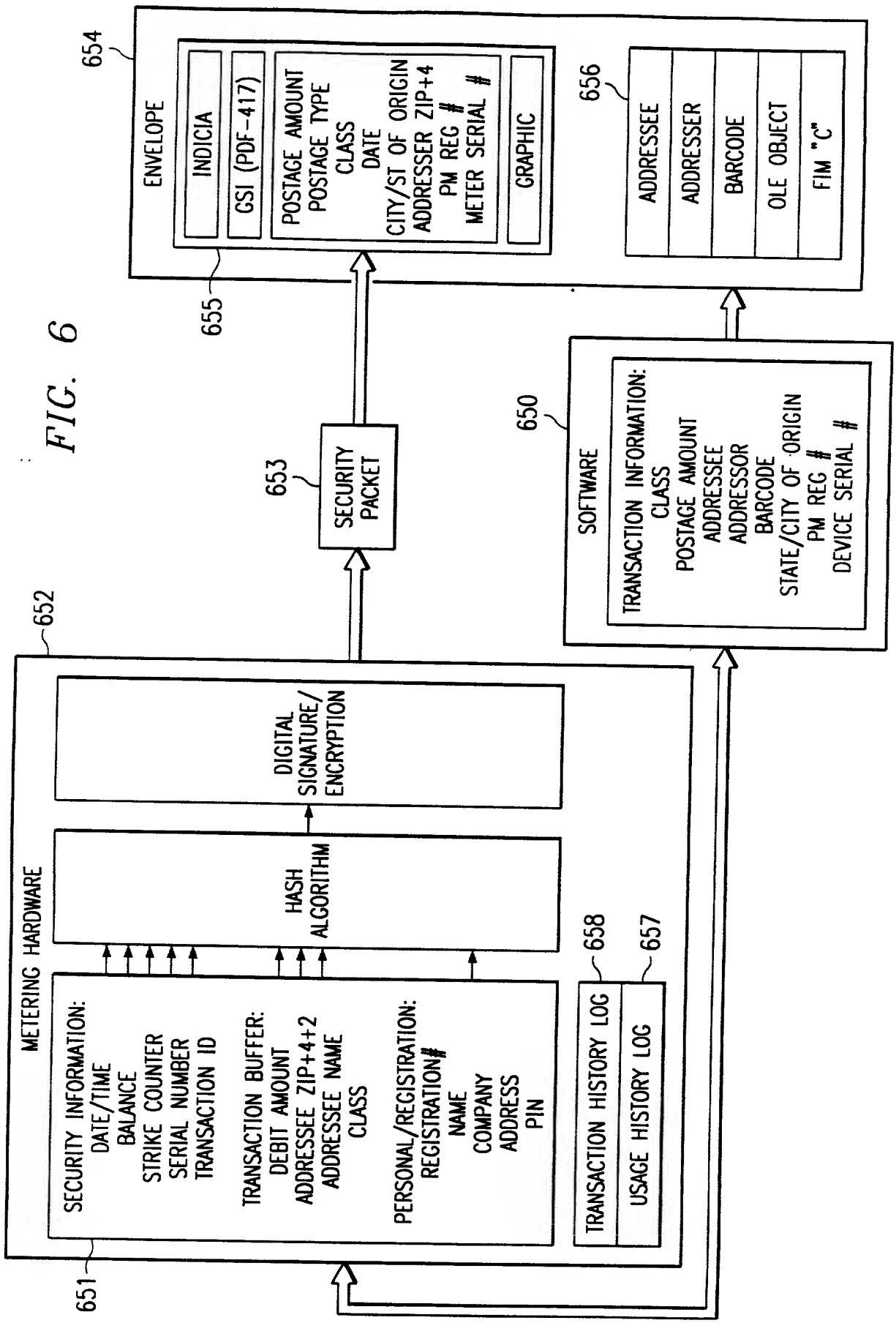

654
ENVELOPE
INDICIA
GSI (PDF-417)
POSTAGE AMOUNT
POSTAGE TYPE
CLASS
DATE
CITY/ST OF ORIGIN
ADDRESSER ZIP+4
PM REG #
METER SERIAL #
GRAPHIC
655
656
ADDRESSEE
ADDRESSER
BARCODE
OLE OBJECT
FIM "C"
650
SOFTWARE
TRANSACTION INFORMATION:
CLASS
POSTAGE AMOUNT
ADDRESSEE
ADDRESSOR
BARCODE
STATE/CITY OF ORIGIN
PM REG #
DEVICE SERIAL #
653
SECURITY PACKET
652
METERING HARDWARE
DIGITAL SIGNATURE/ ENCRYPTION
HASH ALGORITHM
SECURITY INFORMATION:
DATE/TIME
BALANCE
STRIKE COUNTER
SERIAL NUMBER
TRANSACTION ID
TRANSACTION BUFFER:
DEBIT AMOUNT
ADDRESSEE ZIP+4+2
ADDRESSEE NAME
CLASS
PERSONAL/REGISTRATION:
REGISTRATION#
NAME
COMPANY
ADDRESS
PIN
658
TRANSACTION HISTORY LOG
657
USAGE HISTORY LOG
651

FIG. 6

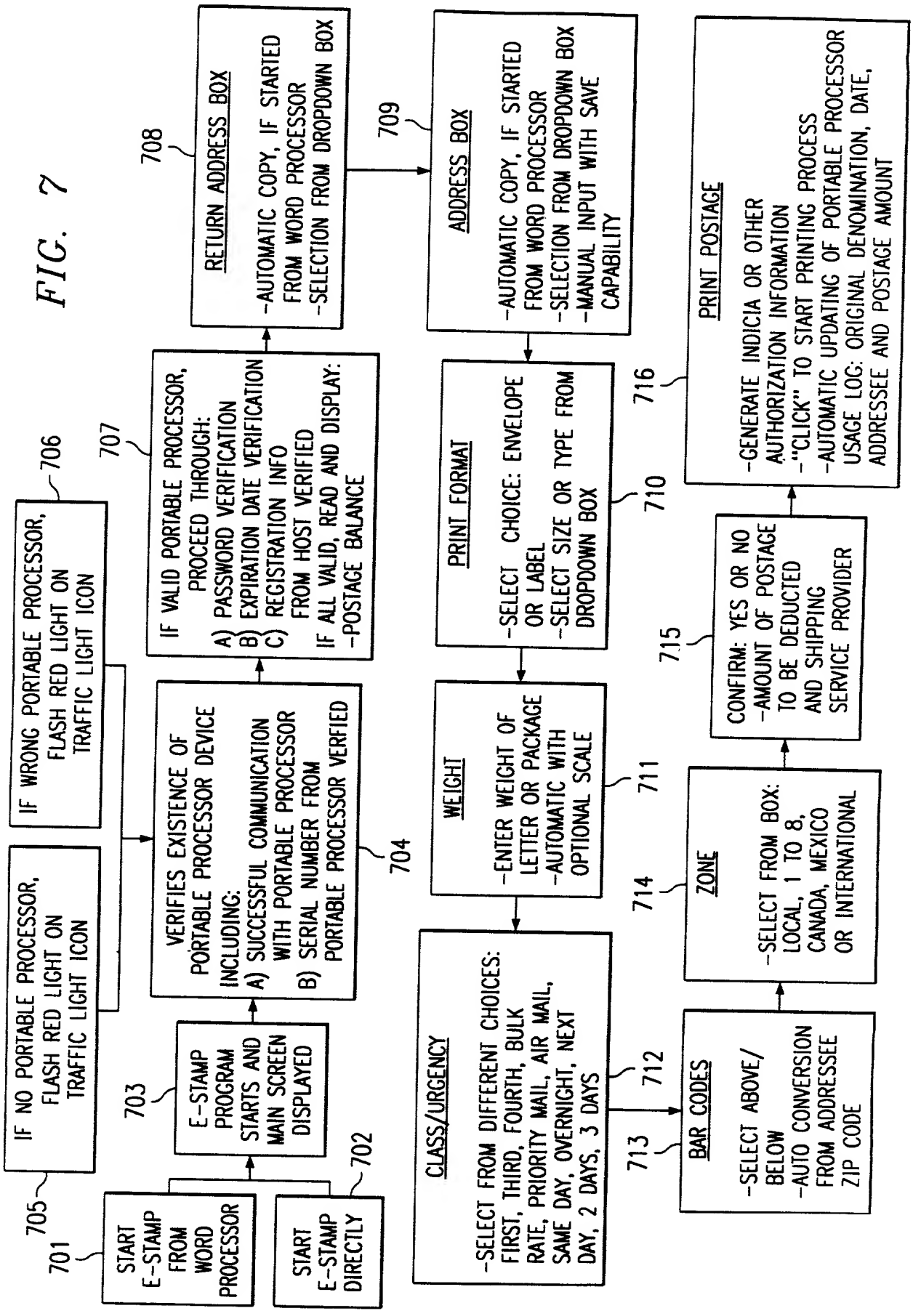

START E-STAMP FROM WORD PROCESSOR
START E-STAMP DIRECTLY
701
702
E-STAMP PROGRAM STARTS AND MAIN SCREEN DISPLAYED
703
VERIFIES EXISTENCE OF PORTABLE PROCESSOR DEVICE INCLUDING:
A) SUCCESSFUL COMMUNICATION WITH PORTABLE PROCESSOR
B) SERIAL NUMBER FROM PORTABLE PROCESSOR VERFIED
704
IF NO PORTABLE PROCESSOR, FLASH RED LIGHT ON TRAFFIC LIGHT ICON
705
IF WRONG PORTABLE PROCESSOR, FLASH RED LIGHT ON TRAFFIC LIGHT ICON
706
IF VALID PORTABLE PROCESSOR, PROCEED THROUGH:
A) PASSWORD VERIFICATION
B) EXPIRATION DATE VERIFICATION
C) REGISTRATION INFO FROM HOST VERIFIED
IF ALL VALID, READ AND DISPLAY:
-POSTAGE BALANCE
707
RETURN ADDRESS BOX
-AUTOMATIC COPY, IF STARTED FROM WORD PROCESSOR
-SELECTION FROM DROPDOWN BOX
708
ADDRESS BOX
-AUTOMATIC COPY, IF STARTED FROM WORD PROCESSOR
-SELECTION FROM DROPDOWN BOX
-MANUAL INPUT WITH SAVE CAPABILITY
709
PRINT FORMAT
-SELECT CHOICE: ENVELOPE OR LABEL
-SELECT SIZE OR TYPE FROM DROPDOWN BOX
710
WEIGHT
-ENTER WEIGHT OF LETTER OR PACKAGE
-AUTOMATIC WITH OPTIONAL SCALE
711
CLASS/URGENCY
-SELECT FROM DIFFERENT CHOICES: FIRST, THIRD, FOURTH, BULK RATE, PRIORITY MAIL, AIR MAIL, SAME DAY, OVERNIGHT, NEXT DAY, 2 DAYS, 3 DAYS
712
BAR CODES
-SELECT ABOVE/ BELOW
-AUTO CONVERSION FROM ADDRESSEE ZIP CODE
713
ZONE
-SELECT FROM BOX: LOCAL, 1 TO 8, CANADA, MEXICO OR INTERNATIONAL
714
CONFIRM: YES OR NO
-AMOUNT OF POSTAGE TO BE DEDUCTED AND SHIPPING SERVICE PROVIDER
715
PRINT POSTAGE
-GENERATE INDICIA OR OTHER AUTHORIZATION INFORMATION
-"CLICK" TO START PRINTING PROCESS
-AUTOMATIC UPDATING OF PORTABLE PROCESSOR USAGE LOG: ORIGINAL DENOMINATION, DATE, ADDRESSEE AND POSTAGE AMOUNT
716

FIG. 7

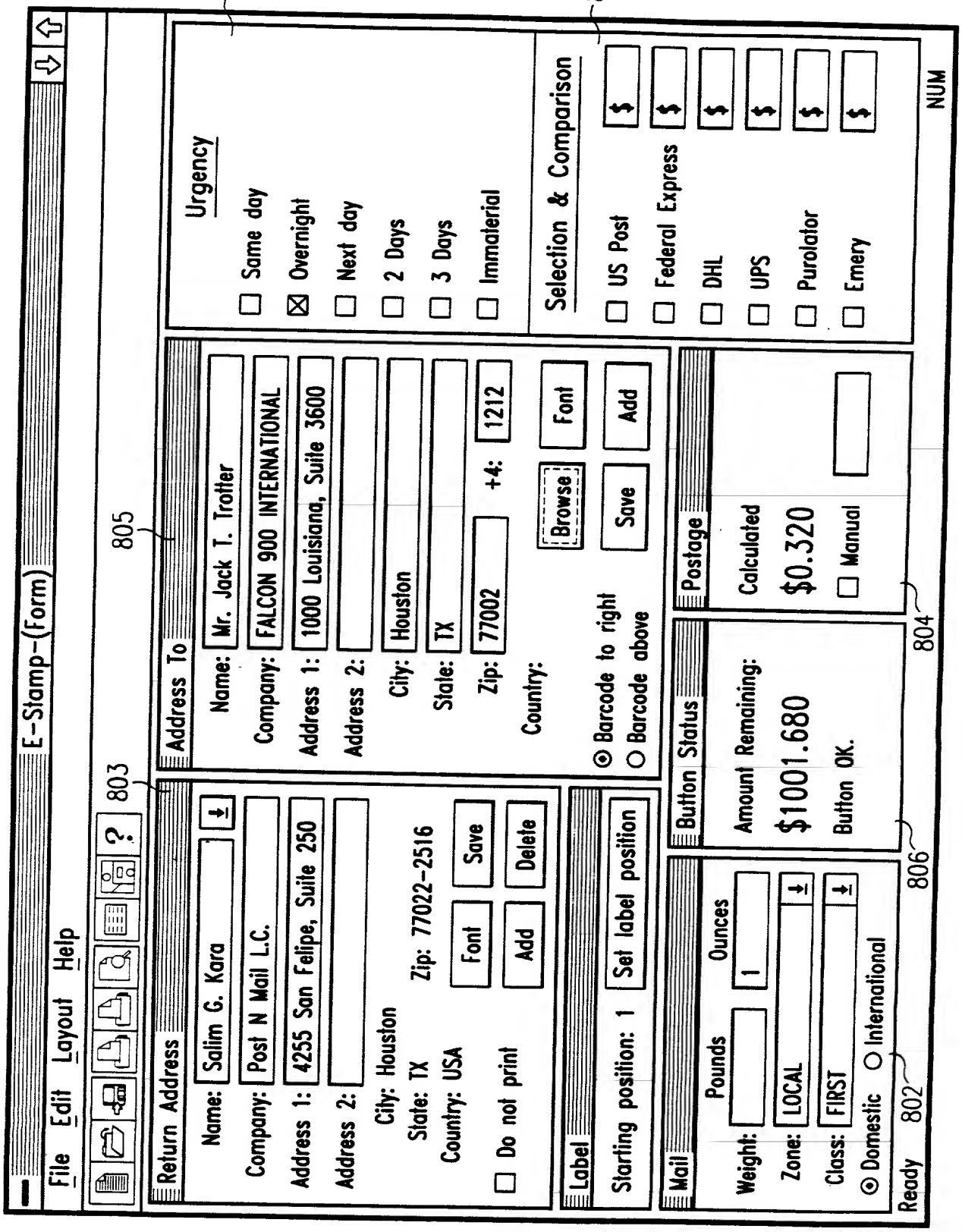

E-Stamp-(Form)
File Edit Layout Help
803
805
807
808
80
Return Address
Name: Salim G. Kara
Company: Post N Mail L.C.
Address 1: 4255 San Felipe, Suite 250
Address 2:
City: Houston
State: TX
Country: USA
Zip: 77022-2516
Do not print
Font
Save
Add
Delete
Address To
Name: Mr. Jack T. Trotter
Company: FALCON 900 INTERNATIONAL
Address 1: 1000 Louisiana, Suite 3600
Address 2:
City: Houston
State: TX
Zip: 77002 +4: 1212
Country:
Barcode to right
Barcode above
Browse
Font
Save
Add
Urgency
Same day
Overnight
Next day
2 Days
3 Days
Immaterial
Selection & Comparison
US Post
Federal Express
DHL
UPS
Purolator
Emery
Label
Starting position: 1
Set label position
Mail
Pounds
Ounces
Weight:
1
Zone: LOCAL
Class: FIRST
Domestic
International
Button Status
Amount Remaining:
$1001.680
Button OK.
Postage
Calculated
$0.320
Manual
Ready
802
806
804
NUM

FIG. 8

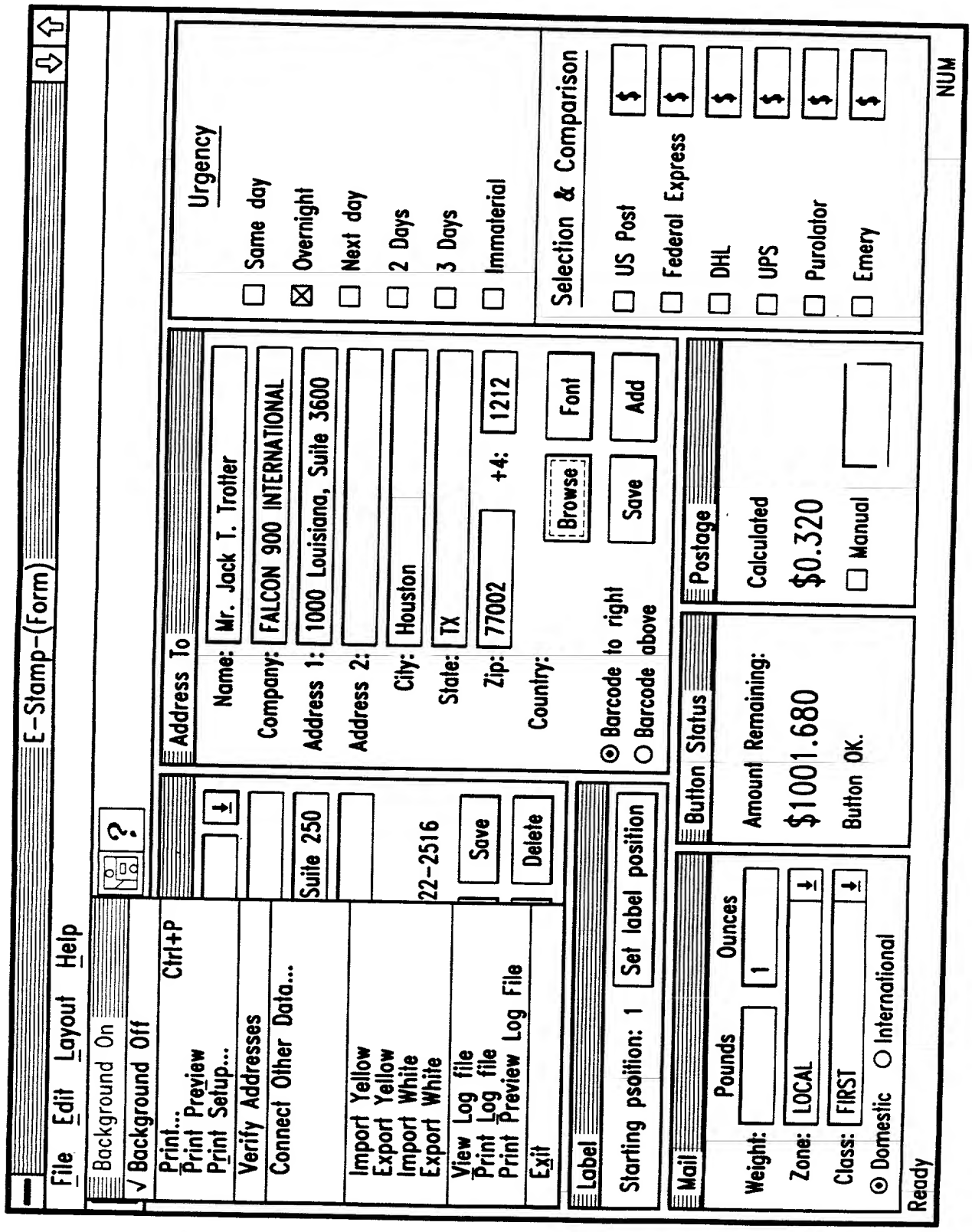
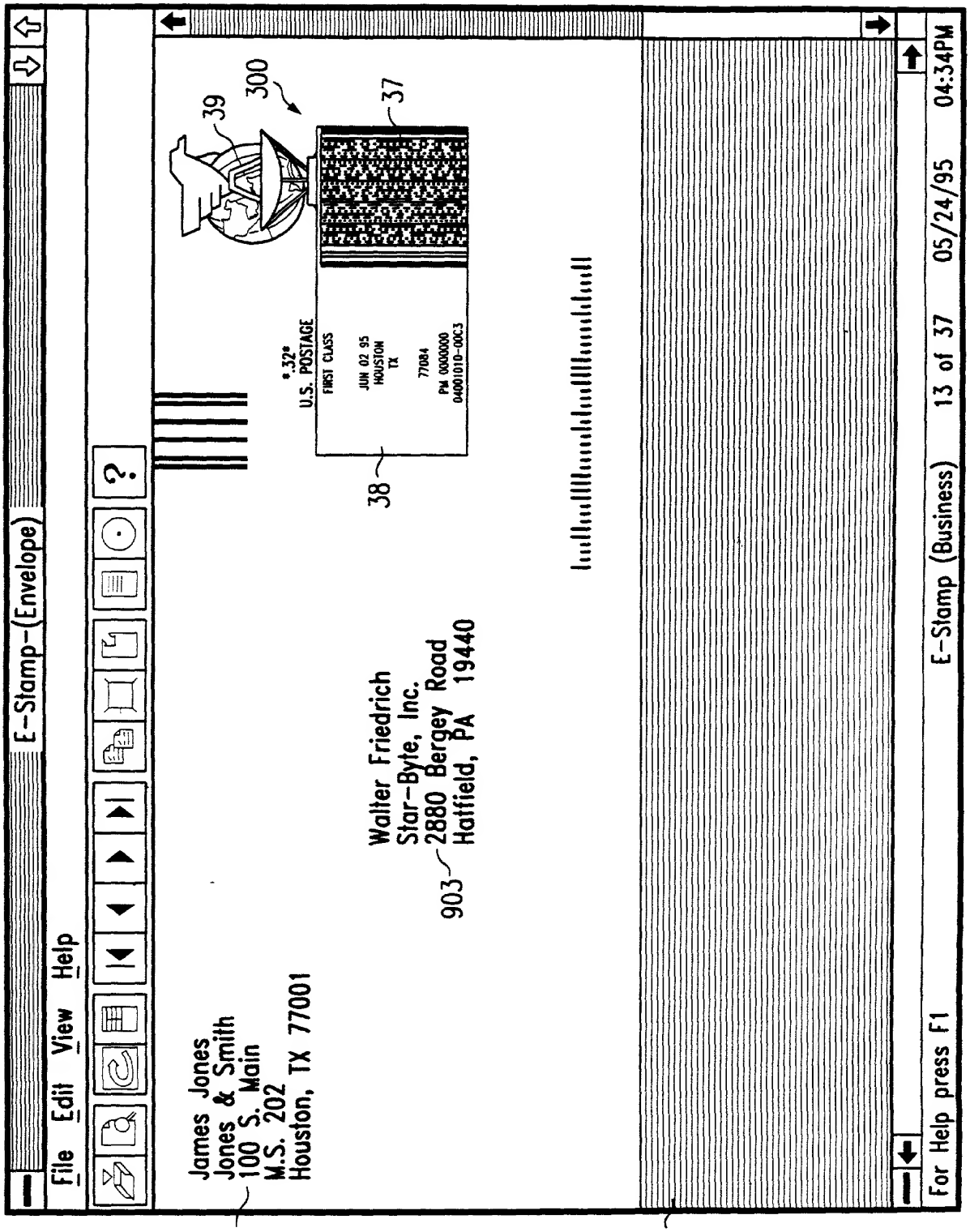

E-Stamp-(Form)
File Edit Layout Help
Background On
√ Background Off
Print... Ctrl+P
Print Preview
Print Setup...
Verify Addresses
Connect Other Data...
Import Yellow
Export Yellow
Import White
Export White
View Log file
Print Log file
Print Preview Log File
Exit
Label
Starting position: 1
Set label position
Mail
Pounds
Ounces
Weight:
1
Zone: LOCAL
Class: FIRST
Domestic
International
Ready
Address To
Name: Mr. Jack T. Trotter
Company: FALCON 900 INTERNATIONAL
Address 1: 1000 Louisiana, Suite 3600
Address 2:
City: Houston
State: TX
Zip: 77002 +4: 1212
Country:
Browse
Font
Barcode to right
Barcode above
Save
Add
Button Status
Amount Remaining:
$1001.680
Button OK.
Postage
Calculated
$0.320
Manual
Urgency
Same day
Overnight
Next day
2 Days
3 Days
Immaterial
Selection & Comparison
US Post
Federal Express
DHL
UPS
Purolator
Emery
NUM

FIG. 8A

FIG. 9


E-Stamp-(Envelope)
File Edit View Help
James Jones
Jones & Smith
100 S. Main
M.S. 202
Houston, TX 77001
902
Walter Friedrich
Star-Byte, Inc.
2880 Bergey Road
Hatfield, PA 19440
903
38
39
300
37
$.32*
U.S. POSTAGE
FIRST CLASS
JUN 02 95
HOUSTON
TX
77084
PM 0000000
04001010-00C3
900
For Help press F1
E-Stamp (Business)
13 of 37
05/24/95
04:34PM

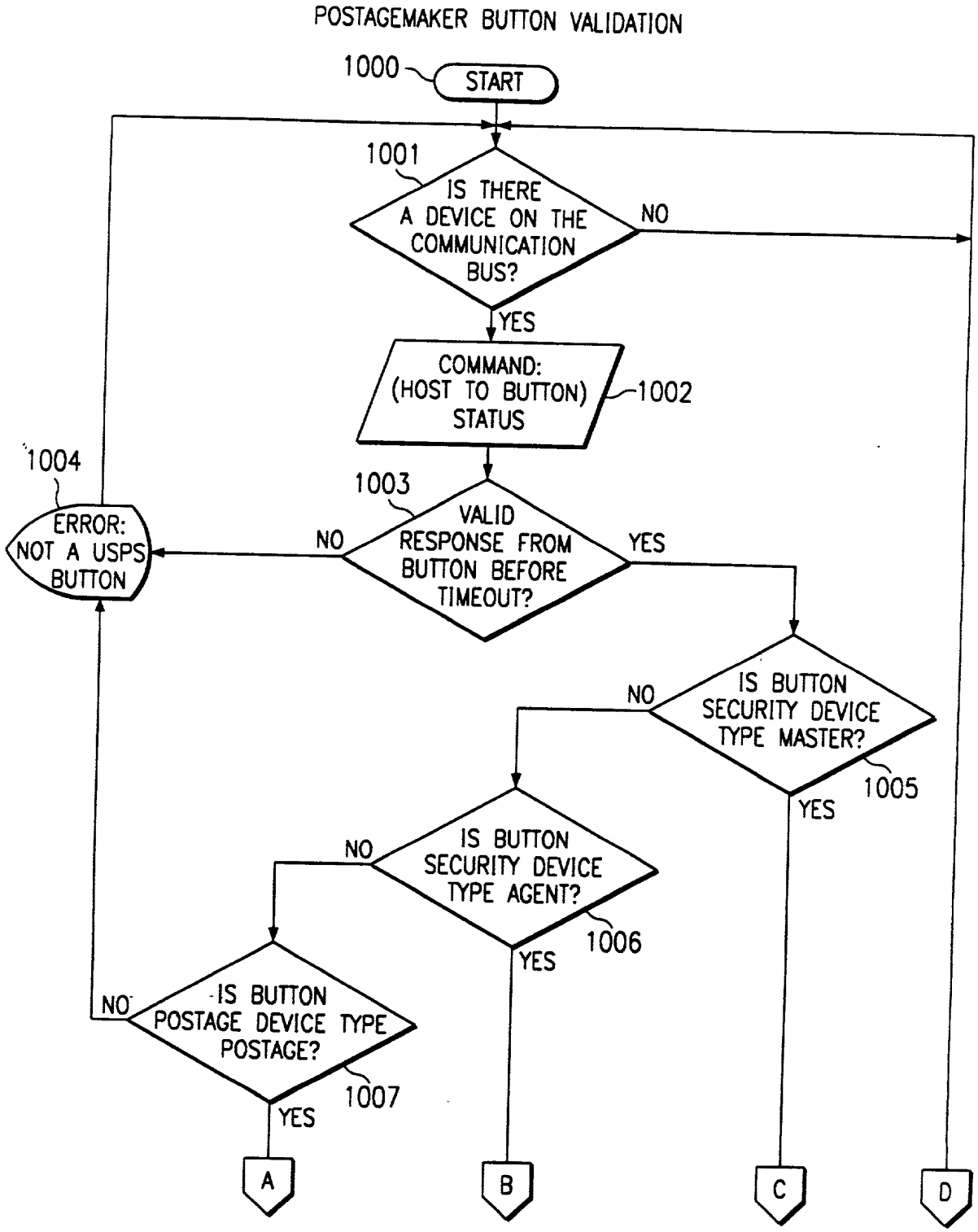

POSTAGEMAKER BUTTON VALIDATION
1000
START
1001
IS THERE A DEVICE ON THE COMMUNICATION BUS?
NO
YES
COMMAND: (HOST TO BUTTON) STATUS
1002
1003
VALID RESPONSE FROM BUTTON BEFORE TIMEOUT?
NO
YES
1004
ERROR: NOT A USPS BUTTON
IS BUTTON SECURITY DEVICE TYPE MASTER?
NO
YES
1005
IS BUTTON SECURITY DEVICE TYPE AGENT?
NO
YES
1006
IS BUTTON POSTAGE DEVICE TYPE POSTAGE?
NO
YES
1007
A
B
C
D

FIG. 10A

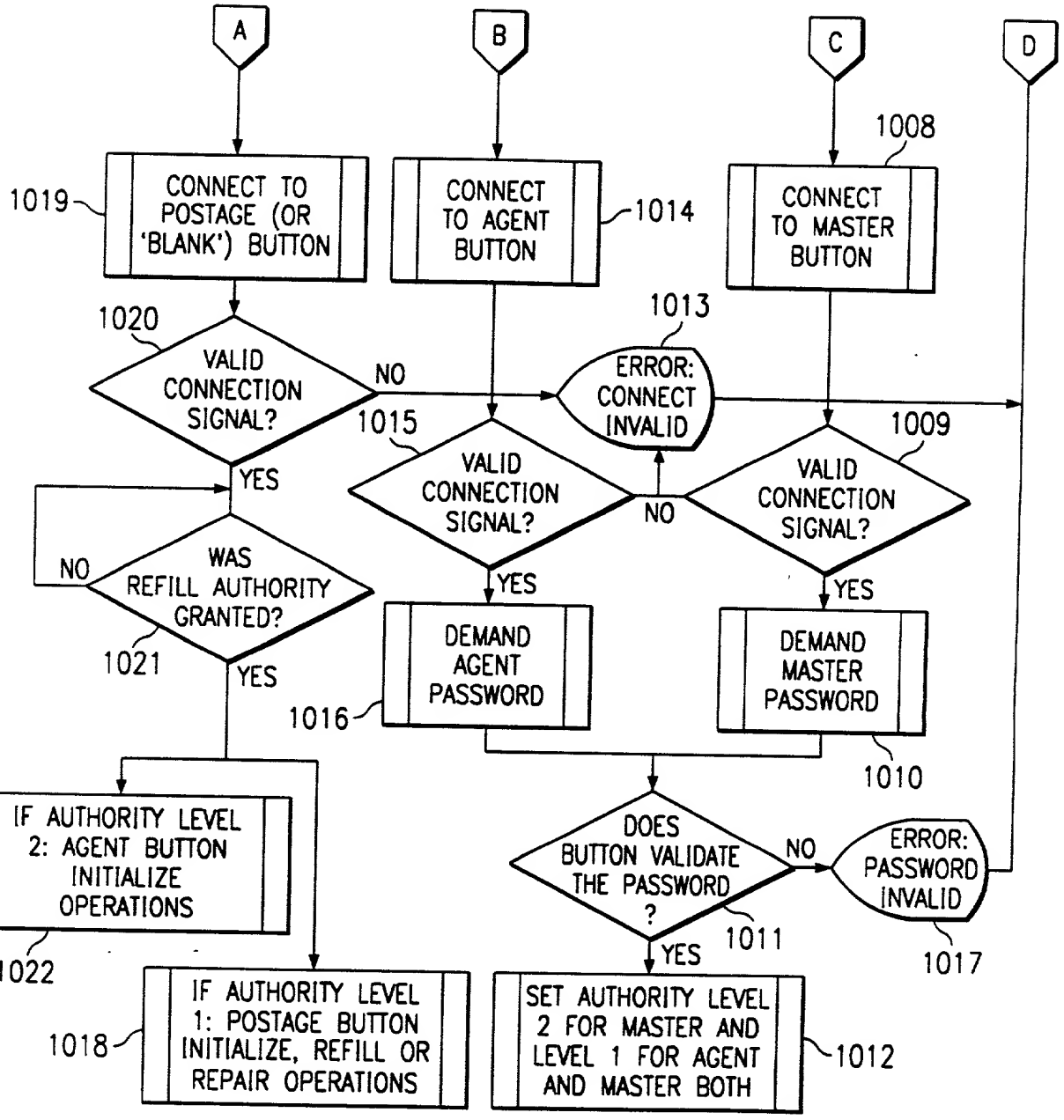

A
B
C
D
1008
CONNECT TO POSTAGE (OR 'BLANK') BUTTON
1019
CONNECT TO AGENT BUTTON
1014
CONNECT TO MASTER BUTTON
1020
VALID CONNECTION SIGNAL?
NO
1013
ERROR: CONNECT INVALID
1015
VALID CONNECTION SIGNAL?
NO
1009
VALID CONNECTION SIGNAL?
YES
YES
YES
NO
WAS REFILL AUTHORITY GRANTED?
1021
YES
DEMAND AGENT PASSWORD
1016
DEMAND MASTER PASSWORD
1010
IF AUTHORITY LEVEL 2: AGENT BUTTON INITIALIZE OPERATIONS
1022
DOES BUTTON VALIDATE THE PASSWORD ?
1011
NO
ERROR: PASSWORD INVALID
1017
YES
IF AUTHORITY LEVEL 1: POSTAGE BUTTON INITIALIZE, REFILL OR REPAIR OPERATIONS
1018
SET AUTHORITY LEVEL 2 FOR MASTER AND LEVEL 1 FOR AGENT AND MASTER BOTH
1012

FIG. 10B

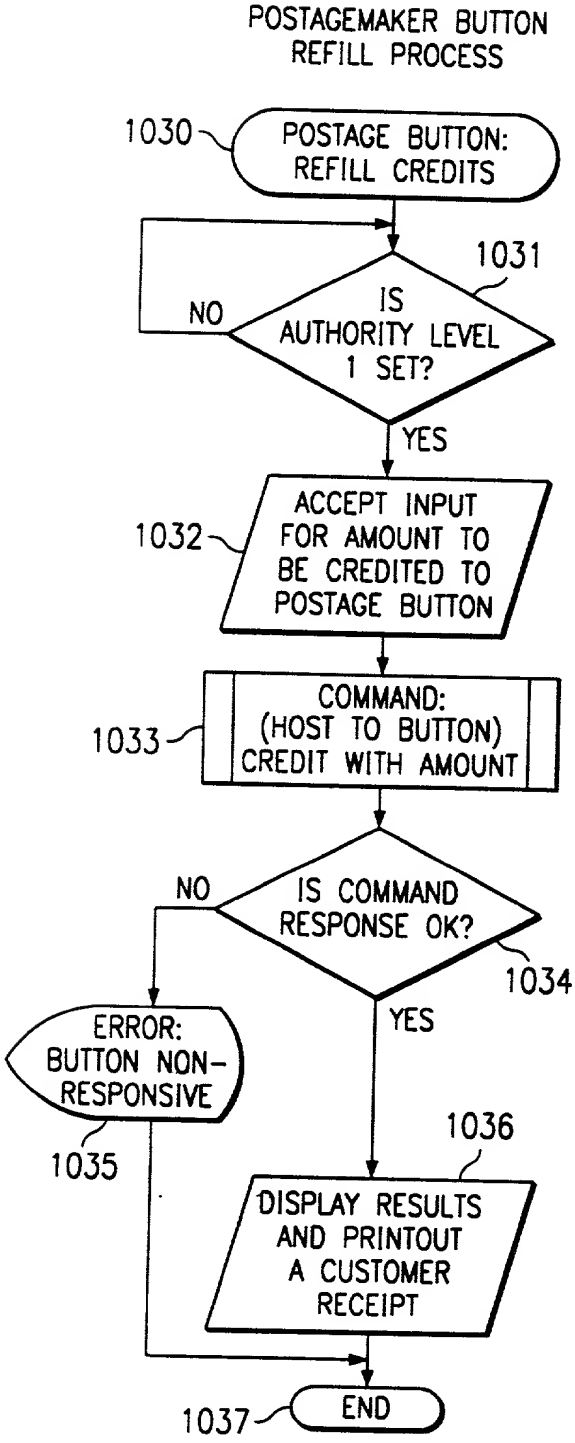


FIG. 10C

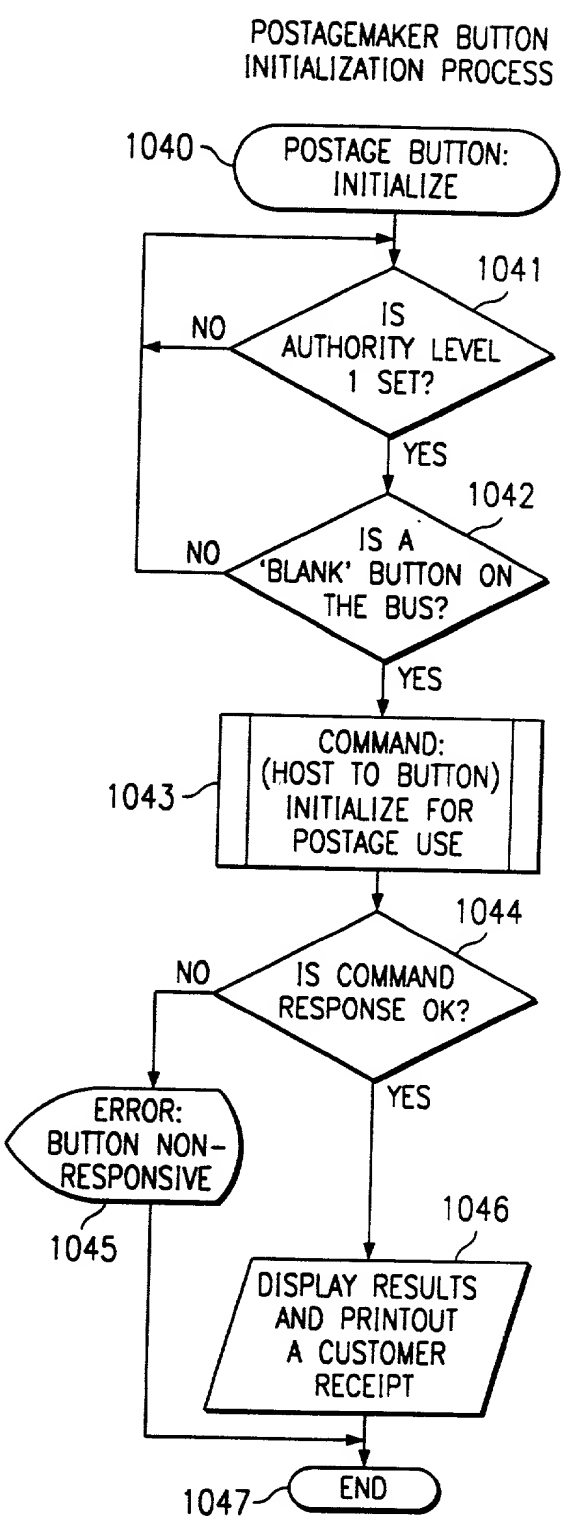


FIG. 10D

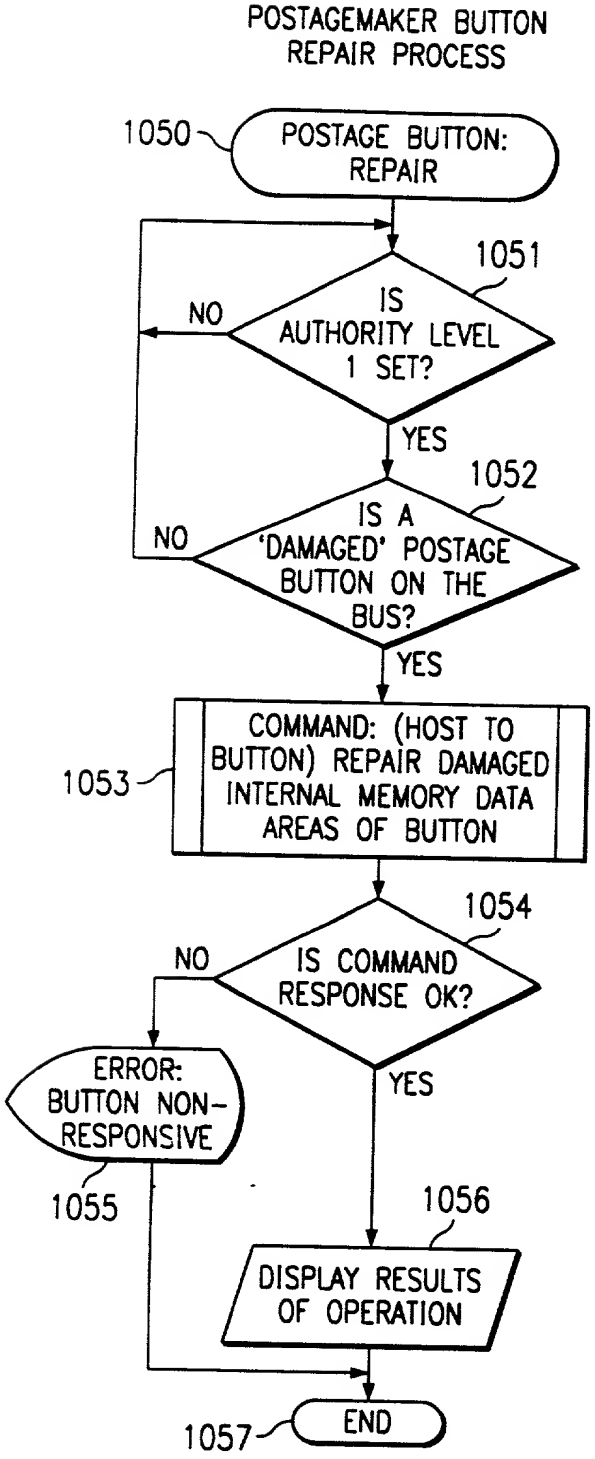


FIG. 10E

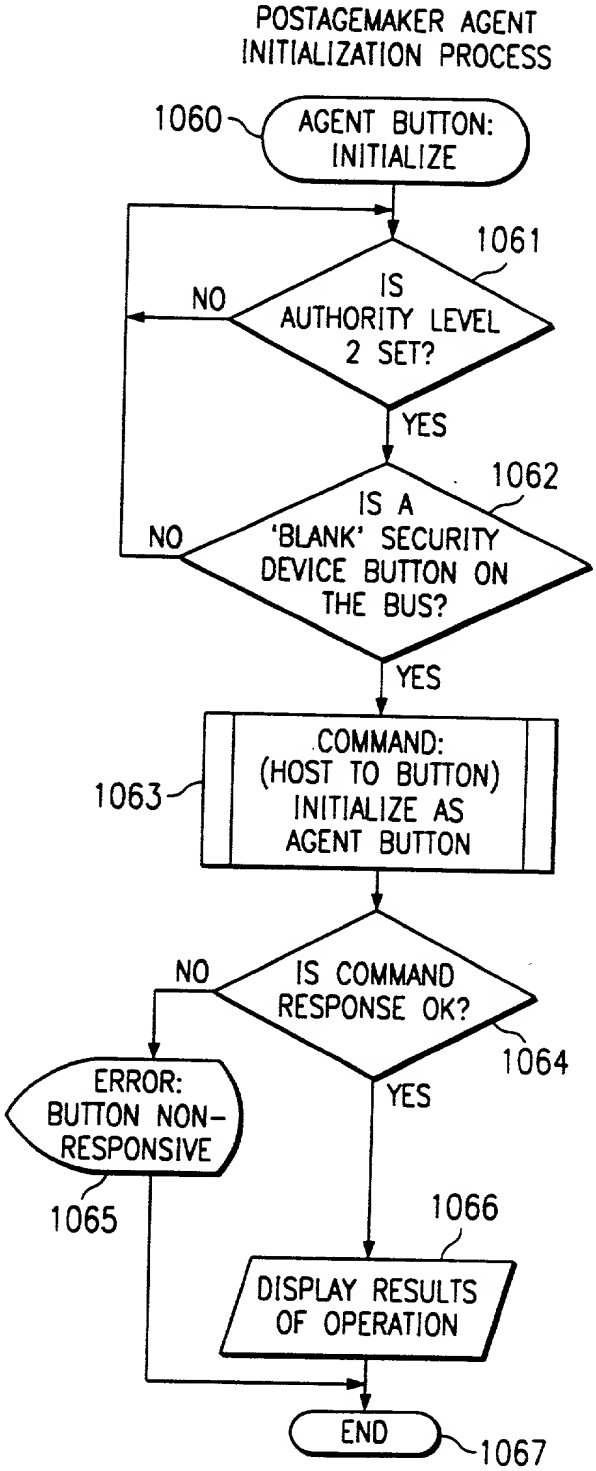


FIG. 10F

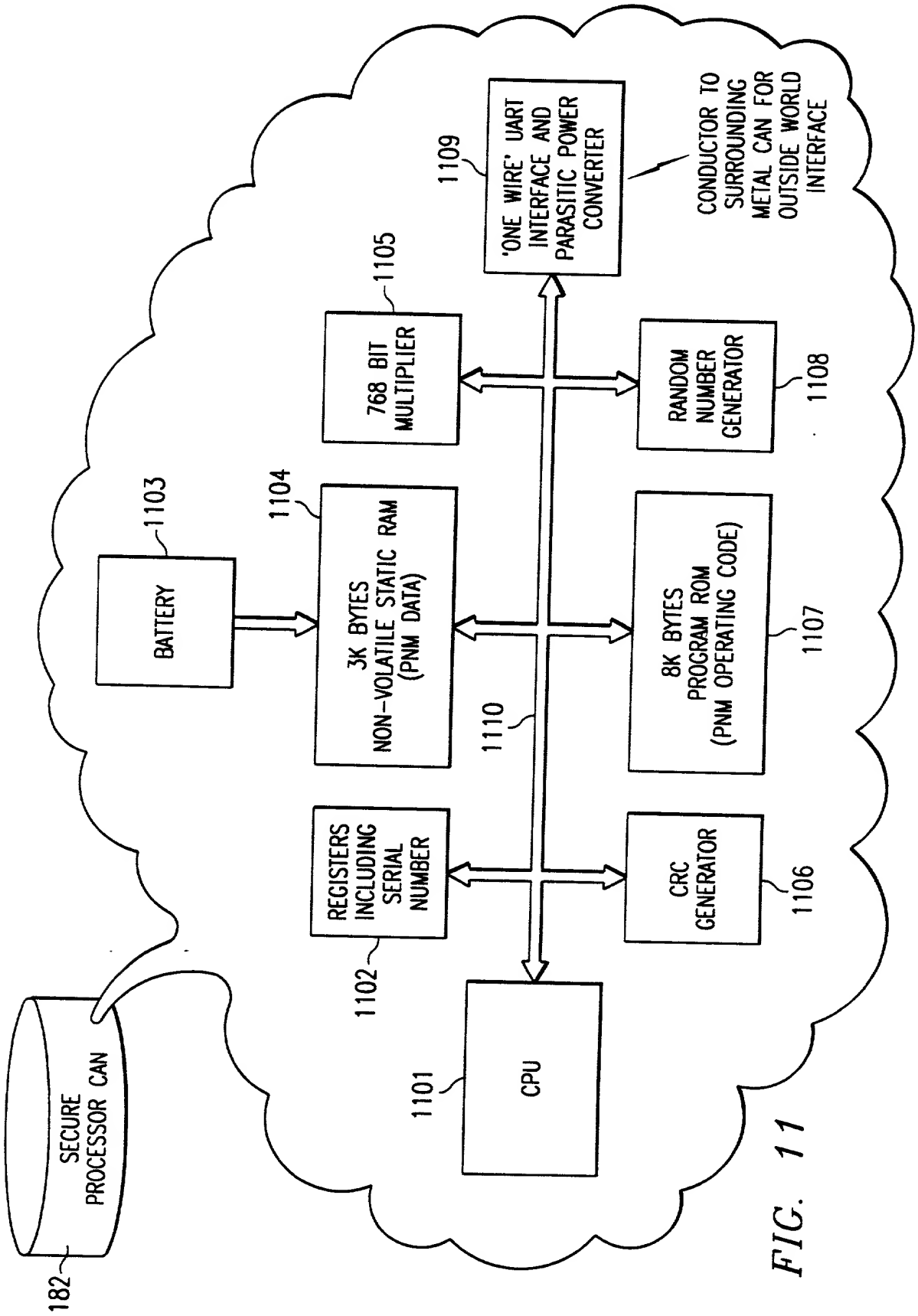

SECURE PROCESSOR CAN
182
CPU
1101
REGISTERS INCLUDING SERIAL NUMBER
1102
CRC GENERATOR
1106
8K BYTES PROGRAM ROM (PNM OPERATING CODE)
1107
3K BYTES NON-VOLATILE STATIC RAM (PNM DATA)
1104
1110
BATTERY
1103
768 BIT MULTIPLIER
1105
RANDOM NUMBER GENERATOR
1108
'ONE WIRE' UART INTERFACE AND PARASITIC POWER CONVERTER
1109
CONDUCTOR TO SURROUNDING METAL CAN FOR OUTSIDE WORLD INTERFACE

FIG. 11

BLOCK DIAGRAM OF MEMORY LAYOUT FOR PREFERRED EMBODIMENT OF PORTABLE POSTAGE PROCESSOR

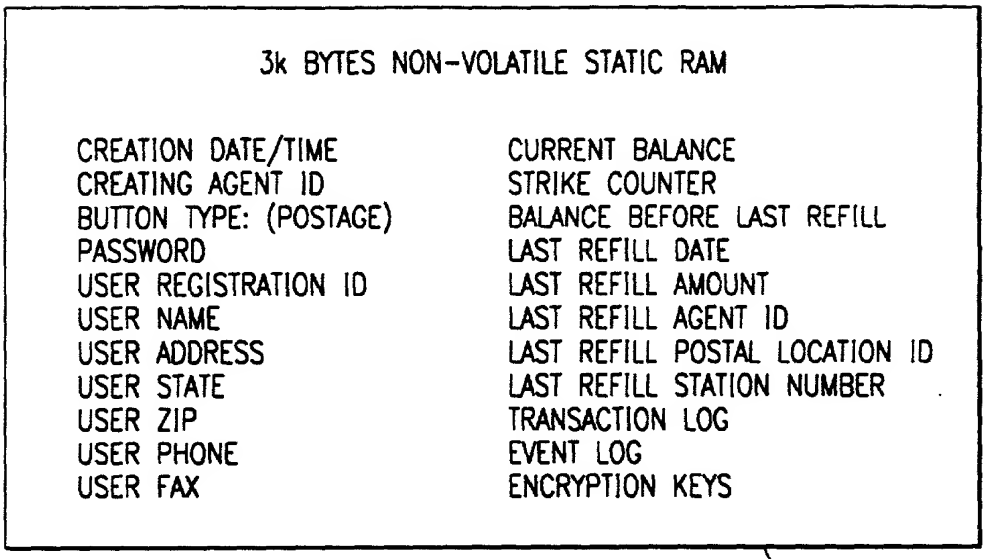


FIG. 12

BLOCK DIAGRAM OF MEMORY LAYOUT FOR PREFERRED EMBODIMENT OF PORTABLE SECURITY DEVICE PROCESSOR FOR AGENT AND MASTER

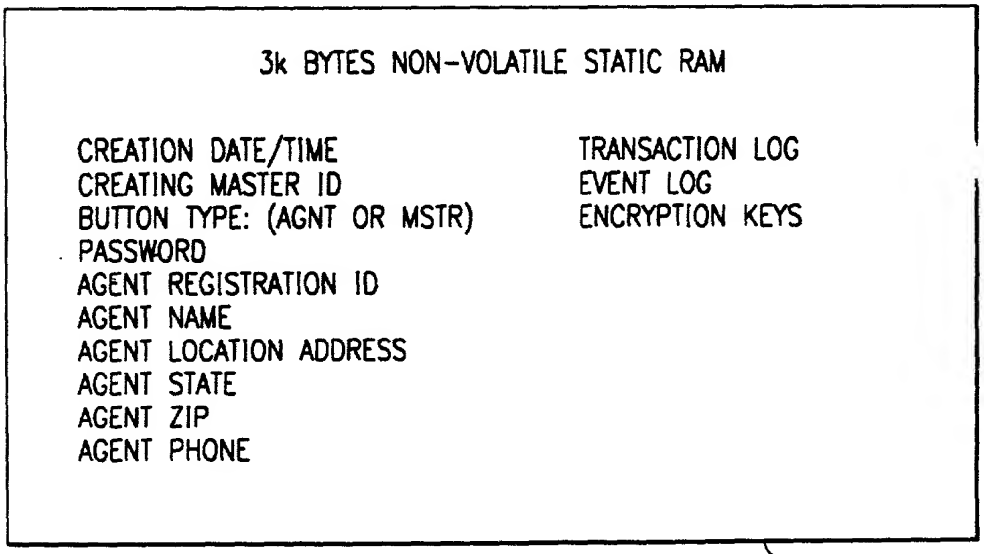


FIG. 13

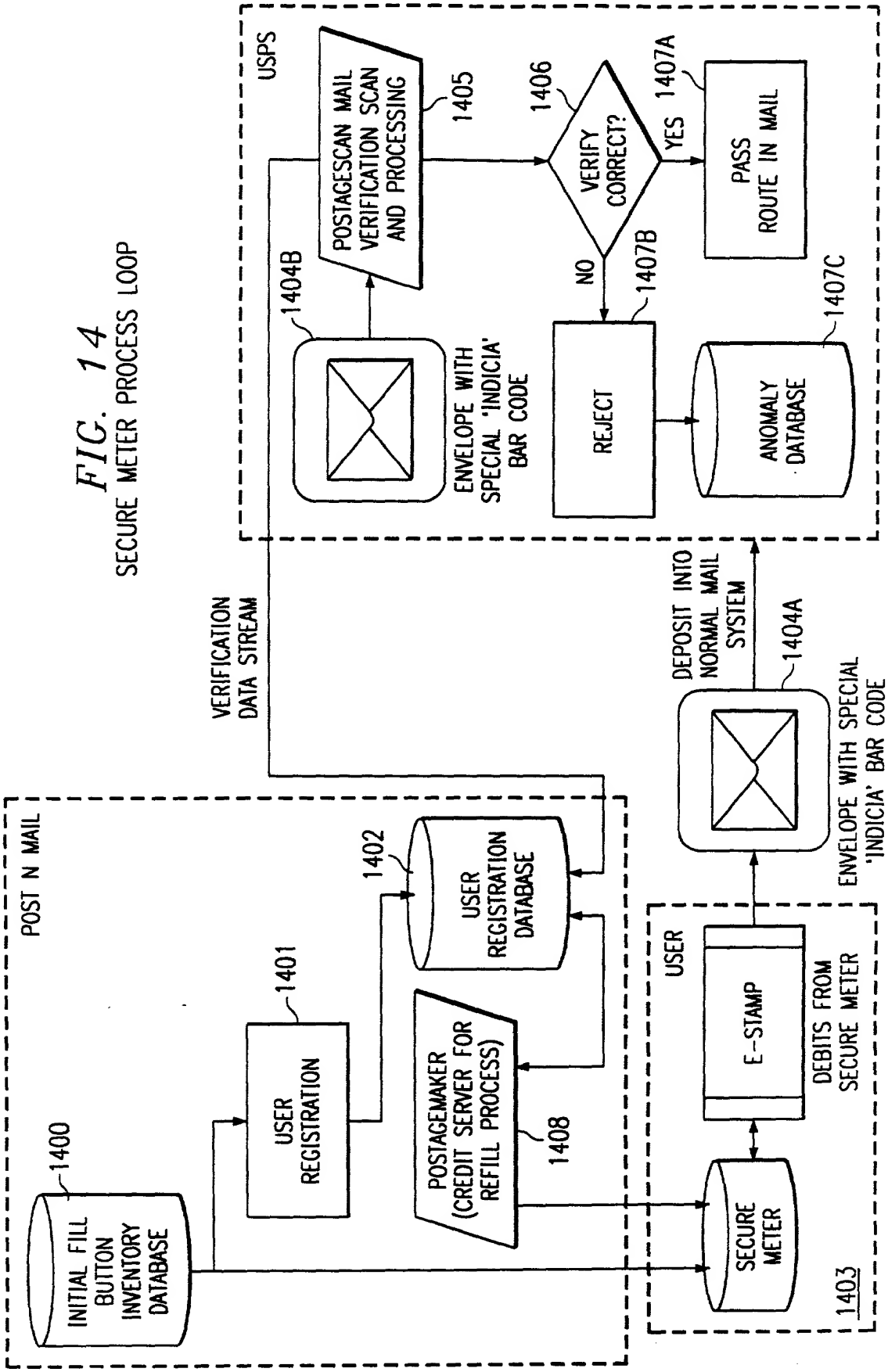



FIG. 14
SECURE METER PROCESS LOOP